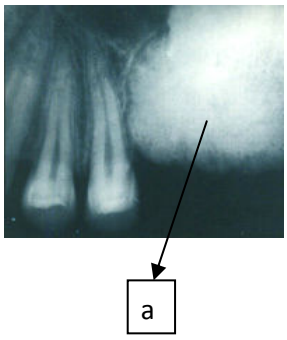
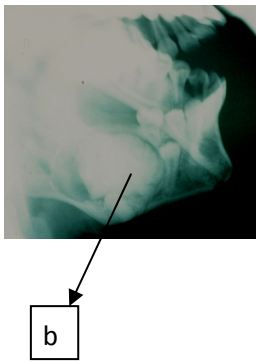
بسم الله الرحمن الرحيم

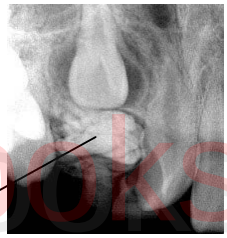
Oral pathology lab of odontomas and odontogenic tumors :

these tow pic show the complex odontoma, we see a radiopaque mass close to enamel opacity with radiolucent rim but we don't see small organized pieces or small tooth- like structures and the mass is associated with unerupted teeth and pushing the unerupted tooth down so they represent the complex odontoma,see a and b

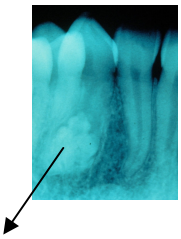


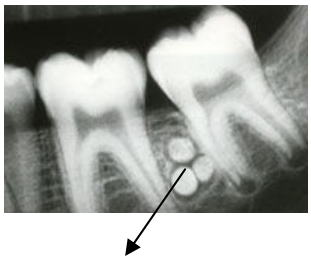


#2: here we see several tooth-like pieces have the same radio density of all tooth structure enamel, dentine, pulp each surrounded by radiolucent rim this radiolucent rim contain dental follicle like structure with epithelial remnant so we may have ameloblastic fibroma with the odontoma ,if they occurred together we call it ameloblastic fibrodontoma,it's common to have ameloblastic fibroma with odontoma,,,,,they represent by the arrows here

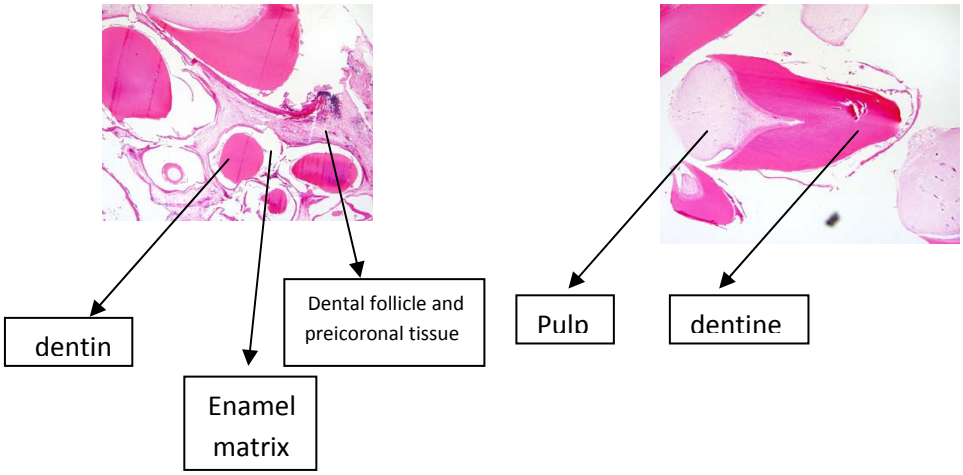


#3: here also radiographic feature of compound odomtoma



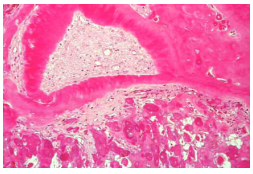


#4: here is the histopathological feature of compound odontoma they have the structure of normal tooth and they have the surrounding pericoronal tissue, dental follicle and also dental papilla-like tissue or pulp like-tissue ,so small pieces surrounded by dental follicle tissue or dental papilla or pulp-like tissue and these soft tissue contains epithelial odontogenic remnant for this reason we may have ameloblastic fibroma with the odontoma "ameloblastic fibro-odontoma"

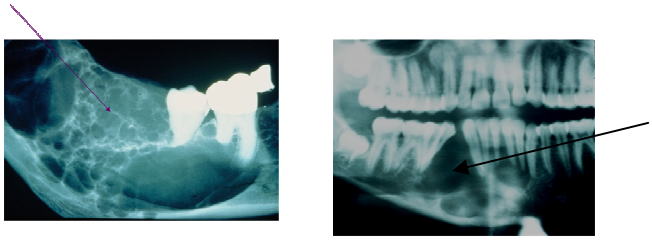


#5:

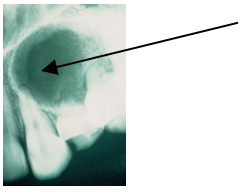
here represent the complex odontoma where we see haphazard mass of dental hard tissues enamel,dentine,cementme ,pulp… and str resemble enamel organ



#6:here is the radiograph of odontogenic ameloblastoma it looks like multilocular radiolucent big spaces,,if these space where small and honeycomb-like we think about myxoma,,also we may think about calcifying epithelial odontogeic tumour,,also we may think about calcifying odontogenic tumour or any other odontogenic tumour ,also we may think about odontogenic keratinizing cysts(OKC)

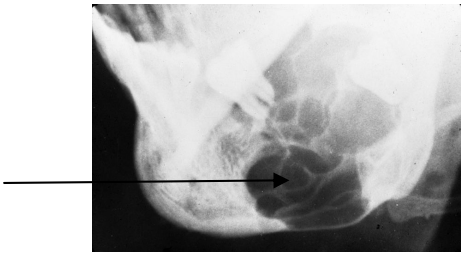


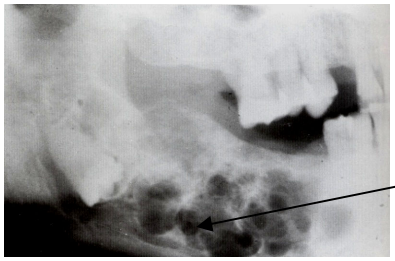
#7:here it represent the unilocular appearance of amelobastoma which is uncommon



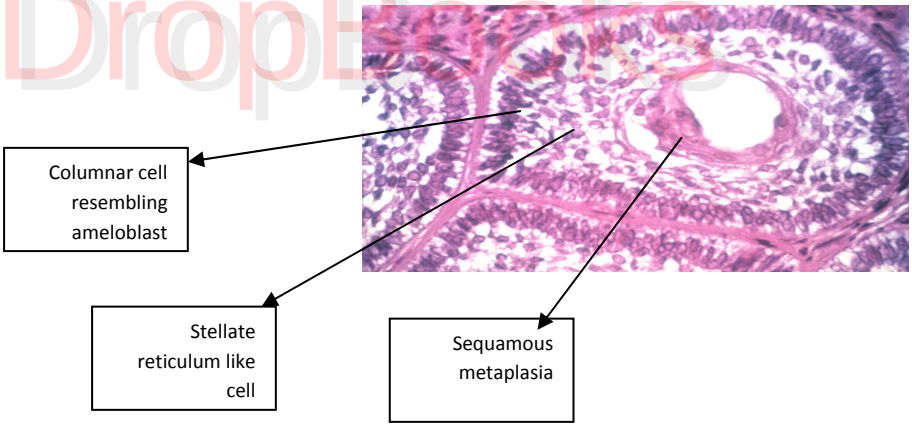
#8:here in these tow we see an unerupted third molar with pericoronal radiolucency ,we think about dentigerous cyst ,OKC, ameloblastoma these are the major component of our differential diagnosis .

#9: here we see multilocular radiolucency ,big and associated with unerupted tooth in the 1st one and a big radiolucency destroying the mandible and here the surgeon need a safe margin may 2 cm and cut the mandible ,then put a bone from the rib or metal band or wht ever to replace the destroyed piece of the mandible,,we realize that the ameloblastoma isn't an easy lesion especially when it's big.



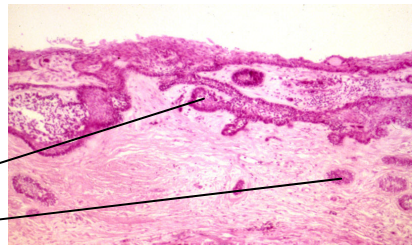


#10: this is a histopathologic pic for ameloblastoma,we see here the follicular type of ameloblastoma(discrete rounded islands or follicle),we have the peripheral layer of the columnar cell which are polarized away from surrounding tissue,in central portion is stellate reticulum like cell which may show sequamous changes or epidermoid changes (sequamous metaplasia)



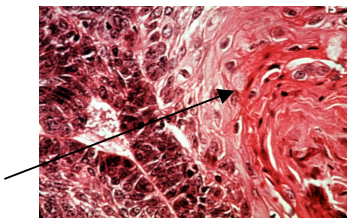
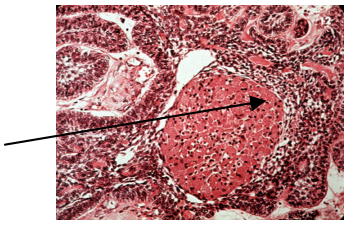
*notice that there are high number of stellate reticulum cell in the ameloblastoma compared to ameloblastic fibroma as we will see later

#11:here ameloblastoma originate from the epithelial lining of cyst then start invading the wall of the cyst ,,are we going to call it unicystic ameloblastoma??no,cuz the island is going down into the connective tissue wall ,so we can't be sure that it's only in the lining of the cyst

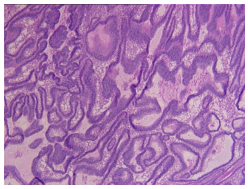


#12: here is the three changs that occur within the stellate reticulum of the follicle,cystic brackdown ,sequamous metaplasia,and granular cell changes,,as arranged,,

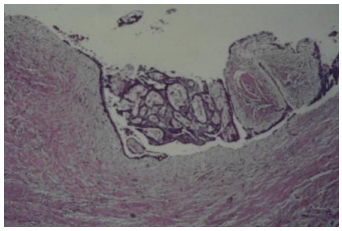
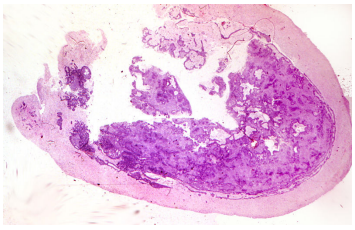
*notice that the cystic brackdown is more in the follicular type than the plxiform,cuz there is a large area of stellate reticulum to occupy the cystic degeneration that the nuterient and oxygen won't reach the centre of the erea and cause cystic degeneration while in plexiform it arranged as narrow strand that the nuterient and oxygen will reach all areas and no degeneration will occur.

#13:here is the plexiform type of ameloblastoma and here the cystic degeneration occur due to stromal degeneration rather than within the stellate reticulum



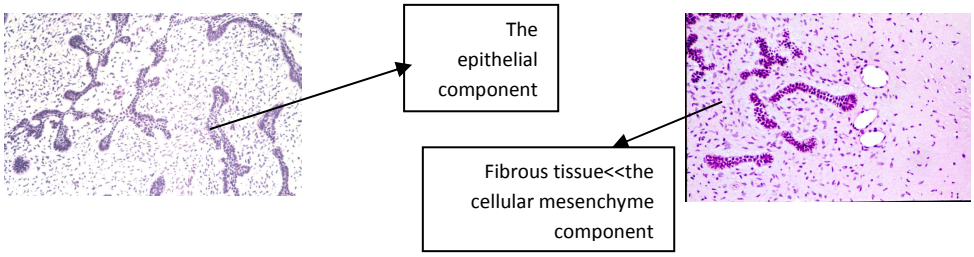
#14:here is the unicystic ameloblastoma and in unicystic ameloblastoma the proliferation occur within the lumen ,it protrude within the cystic space, but not proliferating into the surrounding connective tissue

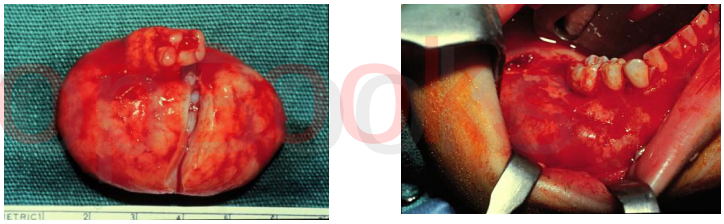
#15: peripheral ameloblastoma it arise from the basal layer of the epithelium ,start proliferating within the gingiva ,,and the treatment of **peripheral ameloblastoma** and **unicystic ameloblastoma**

is differ from the common type of ameloblastoma that in the treatment of the peripheral or unicystic is conservative and the epithelial is limited to cystic lumen ,unlike the typical ameloblastoma where the epithelium is infiltrate into the marrow cancellous and surgical treatment need surgical excision with safe margin.

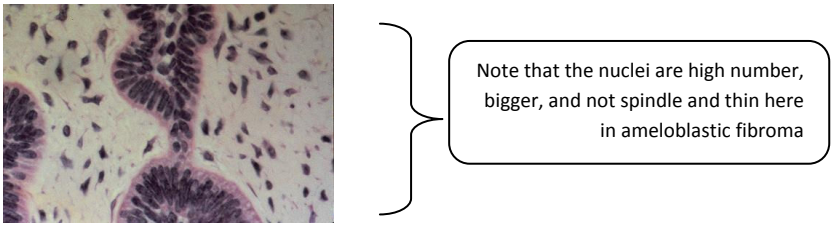
#16:ameloblastic fibroma ,notice that the fibrous tissue are clumps ,stellate and high in number than in the ameloblastoma and cuz we have epithelial remnant then it's called ameloblastic fibroma and the stellate reticulum is much less compared to the ameloblastoma.



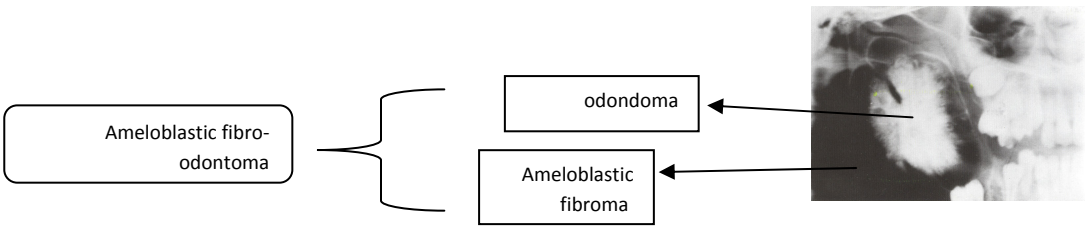
#17:here an expansion in the mandible ,a big lesion removed in a whole piece ,encapsulating and well demarcated from the surrounding tissue.



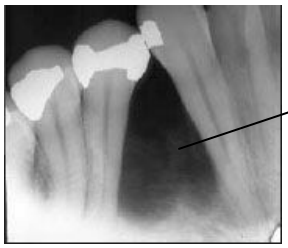
#18: here wht do u think?? Ameloblastic fibroma>> as we said



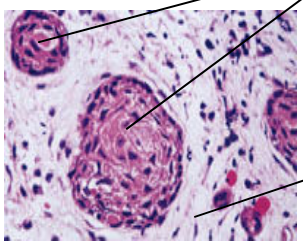
#19:ameloblastic firo-odontoma the same as ameloblastic fibroma but with odontoma associated with it that we have two lesion here



#20: Sequamous odontogenic tumour ,here we need to look at the peripheral layer of the epithielium and here it's not columnar and the cells in the centre are sequamous and not likes ,so this is the sequamous odontogenic tumour.



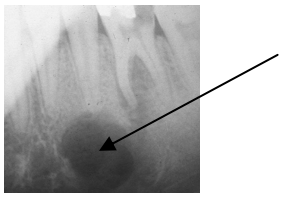
As we see sequmous odontogenic tumour is associated with the root of the teeth present as well circumscribed radiolucency with sclerotic border



Irregular shaped island of well-differentiate sequamous epi

Stroma of mature fibrous tissue

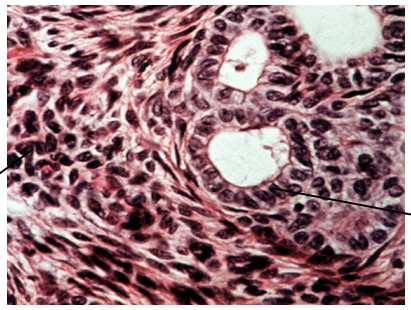
#21: another example of ameloblastic fibroma which is well localized ,,but ameloblastoma maybe unilocular also, so here we decide after the biopsy not radiographically



#22:here is an unerupted canine associated with radiolucent lesion>>the differential diagnosis here is<<dentegerious cyst << OKC << ameloblastoma << sequamous odontogenic tumour << and CEOT if the pnt is old << COC << AOT …AOT which is adenomatiod odontogenic tumour that immediately as we see in this radiograph see anterior region of the maxilla and see an impacted tooth and a young pnt I will put AOT and the list of our differential diagnosis before.

And here why we included the COC and the CEOT where the lesion here is completely radiolucent and we don't have any radiopaque area related to calcifying?? Cuz in the early stage of them we may haven't any calcifying lesion or very minimal amount .

#23: adenomatoid odontogenic tumour (AOT) in this biopsy as we see epithelial cell with different pattern and it try to form glandular –like space(hence adenomatiod)



Note here that this is not stroma this is epithelial cell with different pattern that the AOT is <<epithelial in origin>>

Epithelial columnar cell form duct –like structure.

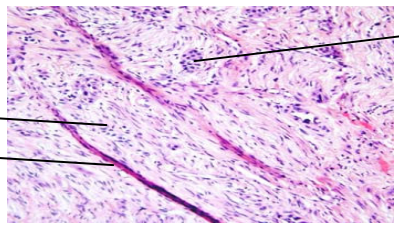
#24: unerupted tooth and surrounding lesion and we can see some calcifying structure here we put our list of differential diagnosis as we said before

#25: this is an unerupted canine ,radiolucent area we should think about AOT

#26: odontogenic fibroma we have mature fibrous tissue,collagine ,spindle cell,

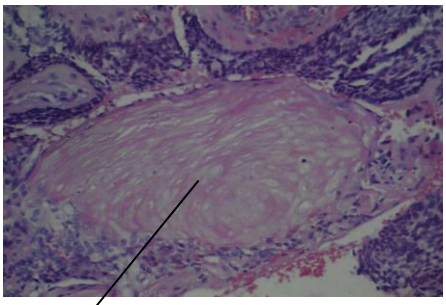
Also we may have remnant of odontogenic epithielium

Fibroblast-like cell with long anastomosing process saperated by abundant connective tissue ground substance

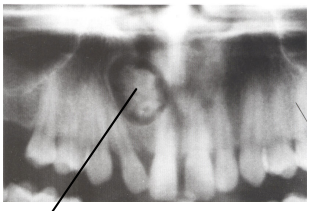


Few strand of epithelial remnant

#27:calcifying odontogenic cyst(COC) here we see well defined radiolucent lesion with radiopaque area related to calcification here we think about COC but not CEOT cuz the later will not clearly demarcated and not well-defiend ,in histpathologigical feature of COC we see ghost cell(swallon,keratinizing epithelial) where we see the shadow of the nuclei ,also we see basal columnar ameloblast-like cell and overlying amore loosely arranged stellate reticulum-like cell

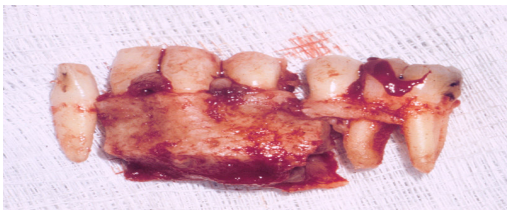


Ghost cell of COC

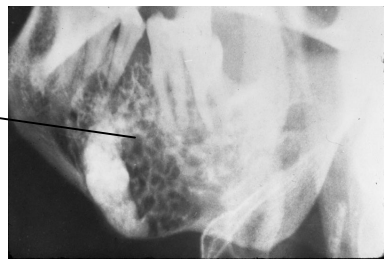


Well-demarcated radiolucency with calcifying area in COC

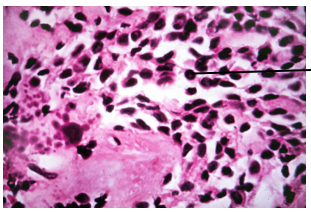
#28:Calcifying epithelial odontogenic tumour(CEOT) ,here we see it associated with loosening of teeth and we see that it need aggressive treatment ,it's a true tumour it has high recurrence rat .



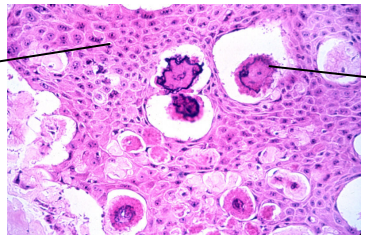
here we see big,multilocular lesion ,expansion of the jaw and displacing the teeth ,,here we may put a list differential diagnosis of <<<<but it will be CEOT<<<<<



#29:here we see a sheet of epithelial ,,and the intercellular margin are very clear ,the bridges also very clear,,some calcification ,,pleomorphism of the nuclei ,,hyperchromatic nuclei <<but these aren't indicative of malignancy .



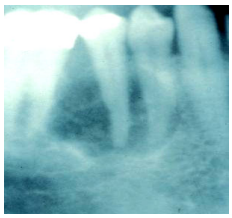
The sheets of epithelial cell with prominent intercellular bridge ,,prominent nuclei…

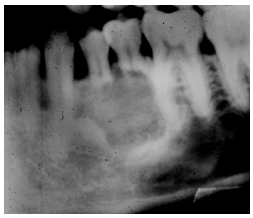


calcification

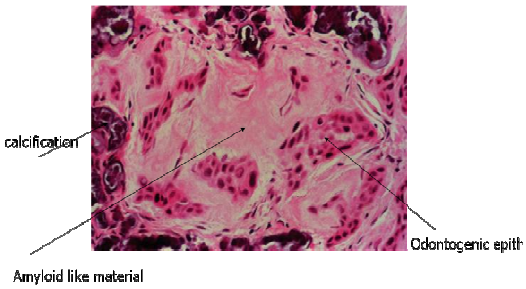
#30:here we see the resorption of the teeth and this radiolucent lesion<<our differential diagnosis is:

COC<<ameloblastoma<<CEOT…….A lot of other lesion

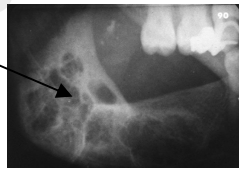




Here in this histopathlogical pic we see amyloid –like material between the epithelial island and then calcification may occur to this amyloid material or the epithelial cell themselves may get calcified or the epi cell may produce the material that get calcified



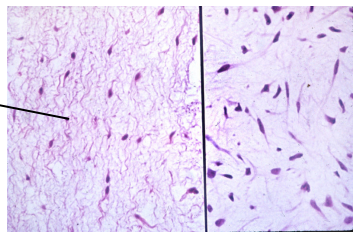
#31: odontogenic myxoma appear like honeycomb –like or(saop-bubble-like) , well-defined margin ,multilocular



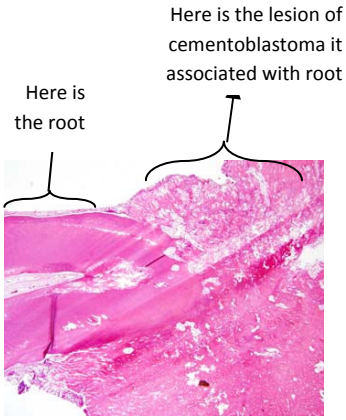
Histologically it appear as loose, spares(small number) fibroblast-like tissue that look like young small cells and separated by ground substace which is glycosaminoglycans .

The density may vary from odontogenic myxoma to odontogenic fibroma (myxoma will be one end of the spectrum and the fibroma will be the other end) and the myxofibroma or fibromyxoma will

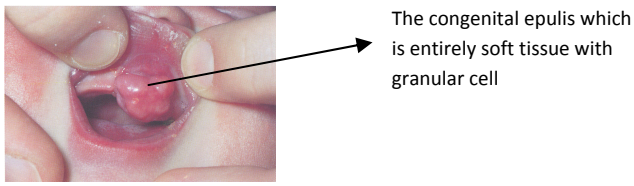
The immature connective tissue rich in ground substance in myxoma



#32: cementoblastoma well defined radiolucent rim ,the lesion is fused to the root ,,in histopathological sectioning we see that the mass is fused to the root it originate from the root that we can't separate the lesion from the root



#33:here histopathologic of congenital epulis ,soft tissue mass with granular cell and it's not the same of(granular cell tumour)of neural origin cuz they are S100 negative ! ,, the treatment of congental epulis is excision.



#34: MNETI is radiolucent lesion of infancy ,teeth appearing floating within it but it's benign ,the recurrence is unknown ,usually in the maxilla in the ant region.

The end ☺

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